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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,477	01/06/2004	Dong Jae You	041993-5363	3545

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MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

EXAMINER	
CHEN, WEN YING PATTY	
ART UNIT	**PAPER NUMBER**
2871	
MAIL DATE	**DELIVERY MODE**
09/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/751,477	YOU, DONG JAE	
	Examiner	Art Unit	
	W. Patty Chen	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-15 and 17-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-15 and 17-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's Amendment filed on Aug. 30, 2007 has been entered. Claims 3 and 16 are cancelled per the Amendment filed, therefore, claims 1, 2, 4-15 and 17-20 remain pending in the current application.

Response to Arguments

Applicant's arguments, filed Aug. 30, 2007, with respect to the rejection(s) of claim(s) 1, 11 and 18 under Lee et al. (US 6295105) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kim (US 6064455).

This Office Action will replace the previous Final Rejection filed on May 30, 2007.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 9, 11, 15 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6064455).

With respect to claim 1 (Amended): Kim discloses in Figure 5 a liquid crystal display device, comprising:

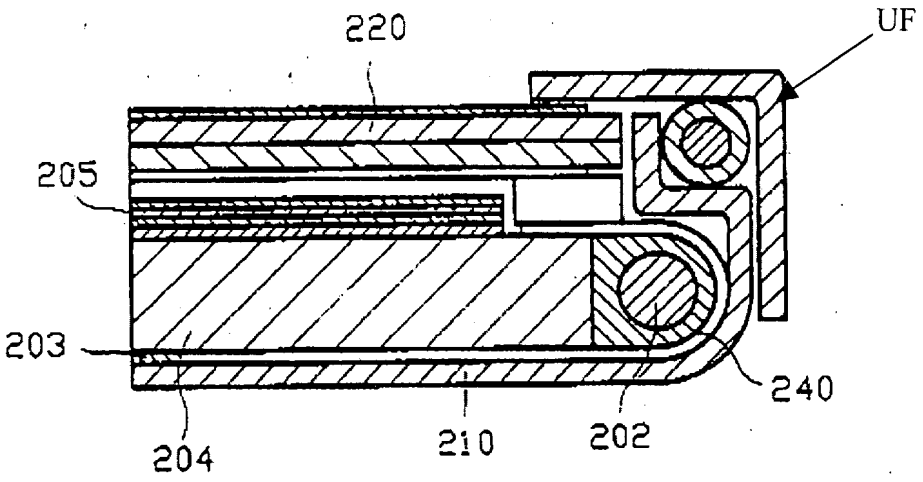
a liquid crystal display panel (element 220);

a backlight unit having a light guide plate (element 204), a fluorescent lamp (element 202), a reflection sheet (element 240) substantially enclosing the fluorescent lamp to reflect light emitted from the fluorescent lamp, and a bottom cover (element 210) having an end portion that is in contact with the reflection sheet to substantially surround and encase the reflection sheet and to support and affix the reflection sheet (Column 3, lines 59-60), the reflection sheet enclosing an outer side of the fluorescent lamp except for a light exit portion of the fluorescent lamp and overlapping a portion of the light guide plate (Column 3, line 63 through Column 4, line 28); and

a chassis (element UF as shown in the figure below) supporting and affixing the liquid crystal display panel and the backlight unit.

Although Kim shows in Figure 5 that the bottom cover only contacts with the side of the reflection sheet under the light guide plate. However, the Examiner takes official notice that it would have been obvious to one of ordinary skill in the art to form the bottom cover such that it also contacts with the side of the reflection sheet that's above the light guide plate, such that the

backlight unit can be firmly received by the bottom cover so as to prevent any movements or misalignments.



As to claim 9: Kim further discloses in Figure 5 that the end portion of the bottom cover (element 210) has a round shape.

With respect to claim 11 (Amended): Kim discloses in Figure 5 a backlight unit, comprising:

a panel-type light guide plate (element 204) having a light projection plane and a light incident plane;

a reflection plate (element 203) along a rear side of the light guide plate;

a lamp assembly at the light incident plane of the light guide plate, the lamp assembly including a fluorescent lamp (element 202) and a reflection sheet (element 240) at an outer side of the fluorescent lamp;

at least one optical sheet (element 205) over the light projection plane of the light guide plate; and

a bottom cover (element 210) extending from a rear side of the reflection plate to an outer side of the reflection sheet such that an end portion of the bottom cover extends to the outer side of the reflection sheet and is in contact with the reflection sheet to substantially surround and encase the reflection sheet and to support and affix the reflection sheet (Column 3, lines 59-60), the reflection sheet enclosing an outer side of the fluorescent lamp except for a light exit portion of the fluorescent lamp and overlapping a portion of the light guide plate (Column 3, line 63 through Column 4, line 28).

Although Kim shows in Figure 5 that the bottom cover only contacts with the side of the reflection sheet under the light guide plate. However, the Examiner takes official notice that it would have been obvious to one of ordinary skill in the art to form the bottom cover such that it also contacts with the side of the reflection sheet that's above the light guide plate, such that the backlight unit can be firmly received by the bottom cover so as to prevent any movements or misalignments.

As to claim 15: Kim further discloses in Figure 5 that the end portion of the bottom cover (element 210) has a round shape.

With respect to claim 18 (Amended): Kim discloses in Figure 5 a backlight unit for a liquid crystal display device, comprising:

a light guide plate (element 204);

a reflection plate (element 203) along a rear side of the light guide plate;

a fluorescent lamp (element 202) along an outer periphery of the light guide plate;

a reflection sheet (element 240) substantially enclosing the fluorescent lamp along the outer periphery of the light guide plate to reflect light from the fluorescent lamp to the light guide plate; and

a bottom cover (element 210) along a rear side of the reflection plate having an end portion that is in contact with the reflection sheet to substantially surround and encase the reflection sheet and to support and affix the reflection sheet (Column 3, lines 59-60), the reflection sheet enclosing an outer side of the fluorescent lamp except for a light exit portion of the fluorescent lamp and overlapping a portion of the light guide plate (Column 3, line 63 through Column 4, line 28).

Although Kim shows in Figure 5 that the bottom cover only contacts with the side of the reflection sheet under the light guide plate. However, the Examiner takes official notice that it would have been obvious to one of ordinary skill in the art to form the bottom cover such that it also contacts with the side of the reflection sheet that's above the light guide plate, such that the backlight unit can be firmly received by the bottom cover so as to prevent any movements or misalignments.

As to claim 19: Kim further discloses in Column 3 line 63 through Column 4 line 20 that a first end portion of the reflection sheet overlaps a portion of the reflection plate and a second end portion of the reflection sheet overlaps a portion of the light guide plate.

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6064455) in view of Lee (US 2003/0223020).

With respect to claim 2: Kim discloses all of the limitations set forth in claim 1 and further discloses in Figure 5 that the backlight unit further comprises:

a panel-type light guide plate (element 204) having a light projection plane and a light incident plane;

a reflection plate (element 203) along a rear side of the light guide plate;

a lamp assembly at the light incident plane of the light guide plate, the lamp assembly including the fluorescent lamp (element 202) and the reflection sheet (element 204) at an outer side of the fluorescent lamp;

at least one optical sheet (element 205) over the light projection plane of the light guide plate; and

the bottom cover (element 210) extends to an outer side of the reflection sheet (element 240).

Kim failed to disclose a rectangular mold frame receiving the reflection plate, the light guide plate, the optical sheet and the lamp assembly therein.

However, Lee discloses in Figures 31 and 32 of a backlight unit comprising a mold frame (element 500) for receiving the reflection plate, the light guide plate, the optical sheet, and the lamp assembly therein, wherein a bottom cover extends from a bottom of the mold frame.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct a liquid crystal display device as taught by Kim wherein the backlight unit of the display device comprises a mold frame as taught by Lee, since by providing the mold frame allows the backlight assembly to be securely attached to the chassis.

As to claim 4: Kim further discloses in Figure 5 that the reflection sheet (element 240) has a round shape and end portions of the reflection sheet overlap a portion of the light guide plate by a first overlap amount (as shown).

Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6064455) and Lee (US 2003/0223020) in view of Shiotani et al. (JP 2001/338512).

With respect to claim 5: Kim and Lee disclose all of the limitations of the liquid crystal display device set forth in the previous claims, but failed to specifically disclose that the first overlap amount is within a range of about 0.2mm to about 30mm.

However, Shiotani et al. in Figure 5 disclose a reflection sheet (element 8) overlapping the light guide plate (element 5) with an overlapping portion (element 21a) by an amount of 0.5mm (element w; column 11, line 4), which is in the specified range of between 0.2mm and 30mm.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to construct a liquid crystal display device as taught by Kim and Lee wherein the first overlapping amount is as taught by Shiotani et al., since Shiotani et al. teach that the overlapping amount determines the effective light-emitting dimension and the unused section of the light-emitting surface of the light guide plate (Column 2, lines 43-50).

As to claim 10: Kim and Lee disclose all of the limitations of the liquid crystal display device set forth in the previous claims, but failed to specifically disclose that the space between the end portion of the bottom cover and the light guide plate is within a range of about 0.1mm to about 50mm.

However, Shiotani et al. in Figure 5 disclose a bottom cover (element 3) with a space (element C) between the light guide plate (element 5) of an amount of 0.1mm (Column 11, line 3), which is in the specified range of between 0.1mm and 50mm.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to produce a liquid crystal display device according to Kim and Lee with the specified spacing dimension taught by Shiotani et al. so that the light leakage amount can be controlled with the gap dimensions.

Claims 6-7 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6064455) in view of Nakano (US 2003/0053008).

Kim discloses all of the limitations of the liquid crystal display device set forth in the previous claims, but failed to disclose that the reflection sheet is formed of one of a synthetic resin including one of a polymer having a high reflexibility and Ti.

However, Nakano discloses in Paragraph 0034 and 36 and Figure 1 a reflection sheet (element 2) formed of one of a synthetic resin selected from the group consisting of ABS, PET, PVC and a non-metallic substance, which includes one of a polymer having a high reflexibility and Ti.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to make the reflection sheet for the liquid crystal display device disclosed by Kim with the reflection sheet composition disclosed by Nakano, since the use of a polymer having a high reflexibility and Ti, especially the white titanium, exhibits a strong effect to improve the concealing property (Page 3, paragraph 0036).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6064455) and Lee (US 2003/0223020) in view of Matsuda et al. (US 2002/0167626).

Kim and Lee disclose all of the limitations of the liquid crystal display device set forth in the previous claims, but failed to disclose that the reflection sheet being formed by an extension of the reflection plate.

However, Matsuda et al. disclose in Figure 9 a reflection sheet (element 10) formed from the extension of the reflection plate (element 10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the single element structure of the reflection sheet/plate disclose by Matsuda et al. in the display device disclosed by Kim and Lee so that the thickness of the LCD device would be thinner by reducing two reflection layers to one single reflection layer, as taught by Matsuda et al. (Paragraph 0112).

Claims 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6064455) in view of Matsuda et al. (US 2002/0167626).

Kim discloses all of the limitations of the liquid crystal display device set forth in the previous claims, but failed to disclose that the reflection sheet being formed by an extension of the reflection plate.

However, Matsuda et al. disclose in Figure 9 a reflection sheet (element 10) formed from the extension of the reflection plate (element 10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the single element structure of the reflection sheet/plate disclose by

Matsuda et al. in the display device disclosed by Kim so that the thickness of the LCD device would be thinner by reducing two reflection layers to one single reflection layer, as taught by Matsuda et al. (Paragraph 0112).

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6064455) in view of Shiotani et al. (JP 2001/338512).

Kim discloses all of the limitations set forth in claim 11, but failed to specifically disclose that the first overlap amount is within a range of about 0.2mm to about 30mm and that the space between an end portion of the bottom cover and the light guide plate is within a range of about 0.1mm to about 50mm.

However, Shiotani et al. in Figure 5 disclose a reflection sheet (element 8) overlapping the light guide plate (element 5) with an overlapping portion (element 21a) by an amount of 0.5mm (element w; column 11, line 4), which is in the specified range of between 0.2mm and 30mm and a bottom cover (element 3) with a space (element C) between the light guide plate (element 5) of an amount of 0.1mm (Column 11, line 3), which is in the specified range of between 0.1mm and 50mm.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to construct a liquid crystal display device as taught by Kim wherein the first overlapping amount and the specified spacing are as taught by Shiotani et al., since Shiotani et al. teach that the overlapping amount determines the effective light-emitting dimension and the unused section of the light-emitting surface of the light guide plate (Column 2, lines 43-50) and

that the light leakage amount can be controlled with the gap dimensions of the spacing of the bottom cover.

Conclusion

Applicant's amendments filed on Feb. 27, 2007 and Aug. 30, 2007 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. Patty Chen whose telephone number is (571)272-8444. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

W. Patty Chen
Examiner
Art Unit 2871

WPC
9/12/07

ANDREW SCHECHTER
PRIMARY EXAMINER